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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,687	01/18/2002	Satoshi Watanabe	5576-137	3765

20792 7590 02/18/2004

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EXAMINER

THORNTON, YVETTE C

ART UNIT PAPER NUMBER

1752

DATE MAILED: 02/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,687

Applicant(s)

WATANABE, SATOSHI

Examiner

Yvette C. Thornton

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This is written in reference to application number 10/052687 filed on January 18, 2002 and published as US 2002/0136981 on September 26, 2002.

Response to Amendment

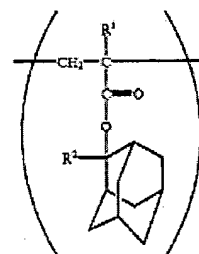
1. Claims 1-16 are currently pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US 6406830 B2). Inoue teaches a chemically amplifying type positive resist composition comprising an aliphatic sulfonium salt represented by the following formula (I); at least one onium salt selected from the group consisting of triphenylsulfonium salt and diphenyliodonium salt; and a resin which contains a polymerization unit having a group unstable to an acid (abstract). The preferred polymerization unit is 2-alkyl-2-adamantyl



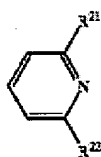
(meth)acrylate and is specifically represented by the formula (III)

wherein

R1 represents a hydrogen or methyl group and R2 represents an alkyl group (c. 7, l. 6-30). It

Art Unit: 1752

is the examiner's position that the 2-alkyl-2-adamantyl (meth)acrylate unit meets the limitations of a resin protected with an acid labile group and has an alicyclic structure having a CO-O(CO) group wherein k is 0. Inoue further teaches that performance deterioration due to deactivation of an acid associated with leaving after exposure can be reduced by adding a basic compound. Among the taught basic compounds 2,6-dialkylpyridine

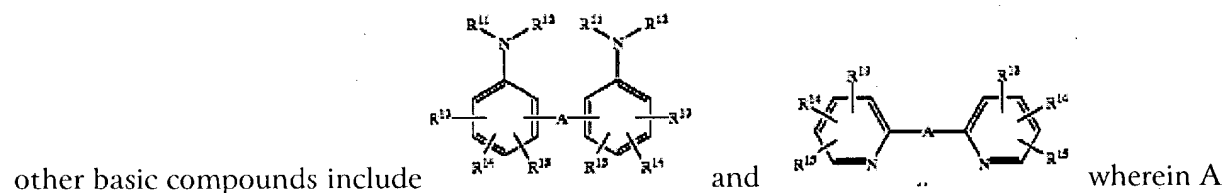


compounds of formula X are preferable for improving the storage stability of the resist. The said compound can be used alone or together with other basic compounds (c. 13, l. 1-19). The composition may also contain, if required, various additive such as sensitizers, dissolution inhibitors, surfactants, stabilizers and dyes so far as the objects of the present invention is not harmed (c. 13, l. 30-36). The taught components are dissolved in an organic solvent such as acetone, 2-heptanone and cyclohexanone to make a resist composition which is applied to a substrate, dried, exposed, heat-treated and then developed to form a positive pattern (c. 38-60). Example 1 exemplifies a process herein the coated substrate is irradiated with an ArF excimer stepper through a line and space pattern, changing stepwise the exposure amount (c. 18, l. 20-31). The said line and space pattern meets the limitation of a photomask as set forth in instant claims 9-16.

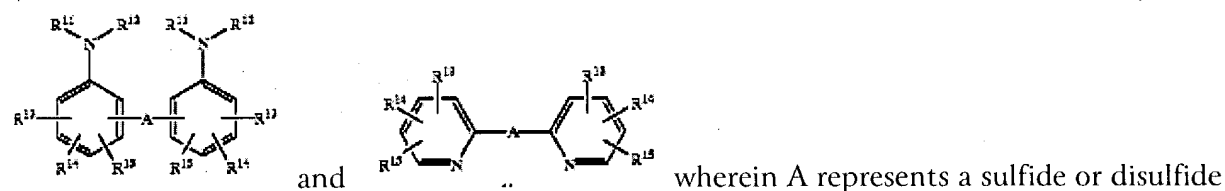
Inoue teaches all the limitations of the instant claims except it fails to explicitly discuss the use of at least one compound selected from the group consisting of thiol derivatives, disulfide derivatives and thiol sulfonate derivatives as set forth in the instant claims. Inoue does however teach that the taught preferred 2,6-dialkylpyridine basic

Art Unit: 1752

compound can be used alone or in combination with other basic compounds. Examples of



represents alkylene, carbonyl, imino, sulfide or disulfide (c. 11, l. 66-c. 12, l. 67). It is the examiner's position that the limitations of the instant claims are met when A is a sulfide or disulfide. One of ordinary skill in the art would have been motivated by the teachings of Inoue to incorporate an additional basic compound such as those represented by formula



group in order to optimize the reduction in performance deterioration due to the deactivation of an acid associated with leaving after exposure (c. 11, l. 66-c. 12, l. 4).

Response to Arguments

4. Applicant's arguments filed December 8, 2002 have been fully considered but they are not persuasive. Applicants argue that Inoue et al. does not constitute prior art due to the foreign priority date of present application of January 22, 2001. The MPEP states that, "[t]he filing date of the priority document is not perfected unless applicant has filed a certified priority document in the application (and an English language translation, if the document is not in English) (see 37 CFR 1.55(a)(3)) and the examiner has established that the priority document satisfies the enablement and description requirements of 35 USC 112,

Art Unit: 1752

first paragraph" (MPEP 706.02(b)(E)). Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

5. The rejection of record is maintained.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

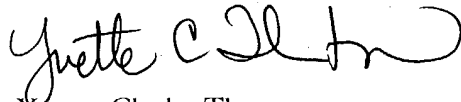
7. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvette C. Thornton whose telephone number is 571-272-1336. The examiner can normally be reached on Monday-Thursday from 8:00 am to 6:30 pm.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff, can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1752

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Yvette C. Thornton', with a stylized flourish at the end.

Yvette Clarke Thornton
Patent Examiner
Art Unit 1752

yct
February 9, 2004